Contribution ID: **9** Type: **not specified**

Isomonodromic deformations: Confluence, Reduction and Quantisation

Tuesday, July 5, 2022 11:30 AM (1 hour)

We study the isomonodromic deformations of systems of differential equations with poles of any order on the Riemann sphere as Hamiltonian flows on the product of co-adjoint orbits of the truncated current algebra. Our motivation is to produce confluent versions of the celebrated Knizhnik–Zamolodchikov equations and explain how their quasiclassical solution can be expressed via the isomonodromic τ-function.
In order to achieve this, we study the confluence cascade of $r+1$ simple poles to give rise to a singularity of arbitrary Poincar\'e rank r as a Poisson morphism and explicitly compute the isomonodromic Hamiltonians.

Primary author: MAZZOCCO, Marta (Birmingham University)

Presenter: MAZZOCCO, Marta (Birmingham University)